

Our Docket No.: 01-00007

Inventors: Black et al.

Serial No.: 10/809,214

Filing Date: March 25, 2004

Page 4 of 12

**LISTING OF CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently amended) A probe composition, comprising:
  - (a) a substrate;
  - (b) an array of different [a] biopolymer [probe] probes covalently attached to said substrate; and
  - (c) a stabilization polymer layer on said substrate, wherein said stabilization polymer layer coats said biopolymer probe.
2. (Cancelled)
3. (Original) The composition of claim 2, wherein said substrate comprises a fiber optic array.
4. (Cancelled)
5. (Cancelled)
6. (Original) The composition of claim 1, wherein said substrate comprises a particle.
7. (Cancelled)
8. (Original) The composition of claim 1, wherein said biopolymer probe comprises a polynucleotide.

Our Docket No.: 01-00007

Inventors: Black et al.

Serial No.: 10/809,214

Filing Date: March 25, 2004

Page 5 of 12

9. (Original) The composition of claim 1, wherein said biopolymer probe comprises a polypeptide.

10. (Original) The composition of claim 1, wherein said stabilization polymer is non-naturally occurring.

11. (Currently amended) The composition of claim 1, wherein said stabilization polymer is selected from the group consisting of polyacrylamide, polyvinylpyrrolidine, polymethylacrylate, polyethylene glycol, chitin, starch, gelatin, hyaluronic acid, cellulose, carrageenan, hydroxypropylcellulose, polyhydroxyethylmethacrylate, polybutylacrylamide-co-acrylamide, glycol polymethacrylate and agarose.

12-33. (Cancelled)

34. (New) The composition of claim 1, wherein said biopolymer probes lack extrinsic labels.

35. (New) The composition of claim 1, wherein said stabilization polymer layer protects said biopolymer probes from degradation that does not normally affect ability of the probe to produce an optical signal.

36. (New) The composition of claim 1, wherein said biopolymer probes comprise extrinsic labels.

37. (New) The composition of claim 36, wherein said stabilization polymer layer protects said biopolymer probes from degradation that does not normally affect ability of the probe to produce an optical signal from said extrinsic labels.

38. (New) A method of detecting a target analyte, comprising

Our Docket No.: 01-00007

Inventors: Black et al.

Serial No.: 10/809,214

Filing Date: March 25, 2004

Page 6 of 12

- (a) providing the probe composition of claim 1;
- (b) contacting said array with target analytes, wherein said target analytes specifically bind to said attached biopolymer probes; and
- (c) detecting the presence of said target analytes.

39. (New) The method of claim 38, wherein said providing in step (a) comprises obtaining a package comprising said substrate.

40. (New) The method of claim 39, wherein said package is obtained from a remote location.

41. (New) The method of claim 39, wherein said package comprises a sealed container.

42. (New) The method of claim 38, further comprising removing said stabilization polymer layer from said substrate prior to step (b).

43. (New) The method of claim 38, wherein said biopolymer probes comprise polynucleotides.

44. (New) The method of claim 38, wherein said biopolymer probes comprise polypeptides.

45. (New) The method of claim 38, wherein said target analytes comprise polynucleotides.

46. (New) The method of claim 38, wherein said target analytes comprise polypeptides.

Our Docket No.: 01-00007

Inventors: Black et al.

Serial No.: 10/809,214

Filing Date: March 25, 2004

Page 7 of 12

47. (New) The method of claim 38, wherein step (c) comprises detecting an optical signal from said target analytes or said biopolymer probes.

48. (New) The method of claim 38, wherein said stabilization polymer is non-naturally occurring.

49. (New) The method of claim 38, wherein said stabilization polymer is selected from the group consisting of polyacrylamide, polyvinylpyrrolidone, polymethylacrylate, polyethylene glycol, chitin, starch, gelatin, hyaluronic acid, cellulose, carrageenan, hydroxypropylcellulose, polyhydroxyethylmethacrylate, polybutylacrylamide-co-acrylamide, glycol polymethacrylate and agarose.

50. (New) A method of shipping a solid-phase probe, comprising  
(a) placing the probe composition of claim 1 in a package; and  
(b) shipping said package to a remote location.

51. (New) The method of claim 50, wherein said package comprises a sealed container.

52. (New) The method of claim 50, wherein said substrate comprises an array of particles each attached to a patterned surface.

53. (New) The method of claim 50, wherein said biopolymer probes comprise polynucleotides.

54. (New) The method of claim 50, wherein said biopolymer probes comprise polypeptides.

Our Docket No.: 01-00007

Inventors: Black et al.

Serial No.: 10/809,214

Filing Date: March 25, 2004

Page 8 of 12

55. (New) The method of claim 50, wherein said stabilization polymer is non-naturally occurring.

56. (New) The method of claim 50, wherein said stabilization polymer is selected from the group consisting of polyacrylamide, polyvinylpyrrolidine, polymethylacrylate, polyethylene glycol, chitin, starch, gelatin, hyaluronic acid, cellulose, carrageenan, hydroxypropylcellulose, polyhydroxyethylmethacrylate, polybutylacrylamide-co-acrylamide, glycol polymethacrylate and agarose.

57. (New) The composition of claim 50, wherein said biopolymer probes lack extrinsic labels.

58. (New) The composition of claim 50, wherein said stabilization polymer layer protects said biopolymer probes from degradation that does not normally affect ability of the probe to produce an optical signal.

59. (New) The composition of claim 50, wherein said biopolymer probes comprise extrinsic labels.

60. (New) The composition of claim 59, wherein said stabilization polymer layer protects said biopolymer probes from degradation that does not normally affect ability of the probe to produce an optical signal from said extrinsic labels.